

PHENIX WEEKLY PLANNING



Sep. 5, 2013
Don Lynch

This Week

- Finish MuTr Station 1 S, Stations 2 & 3 N & S troubleshooting & repairs; Begin disassembly
- Continue VTX Repairs/Upgrade
- Continue building VTX strip-pixel staves
- Continue MPC-Ex installation prep & design/fabrication of assembly fixtures & components
- Continue DC East repairs
- Continue sPHENIX support
 - HCal prototype
 - EMCal prototype design continuing
- Future IR evolution modeling

Next Week

- Continue Disassembly of MMS & MMN
- Continue VTX Repairs/Upgrade
- Continue building VTX strip-pixel staves
- Continue MPC-Ex installation prep & design/fabrication of assembly fixtures & components
- Continue DC East repairs
- Begin Installing Window Washer Winch
- Continue sPHENIX support
 - HCal prototype
 - EMCal prototype design continuing
- Future IR evolution modeling



9/5/2013

VTX/FVTX repairs/upgrades

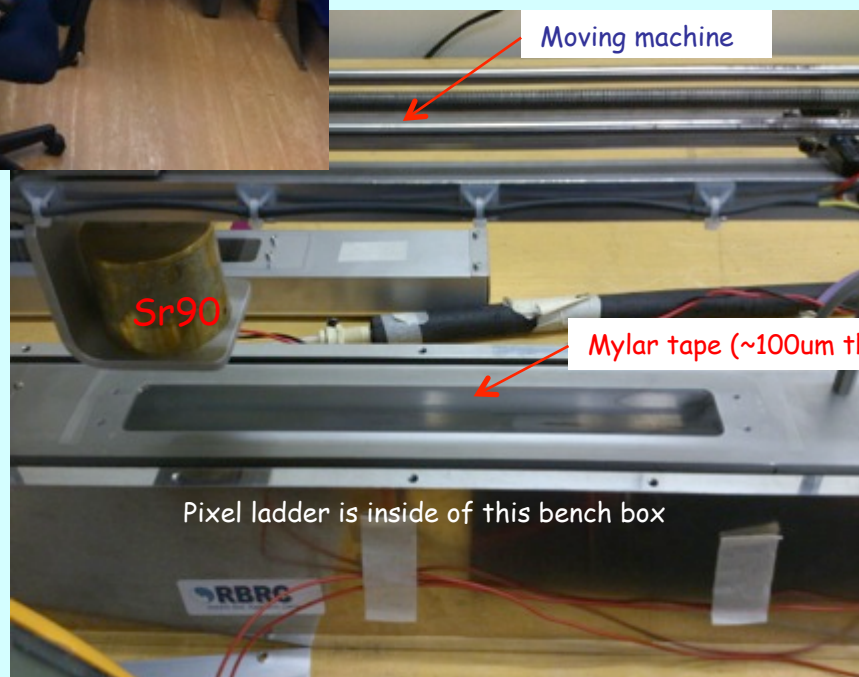
TECHNICAL SUPPORT ROOM



All stripixel stave cores to be received by end of this week

Building staves to continue to ~ 9/15

Remaining pixel ladders to be received from Japan by 9/15



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VTX & FVTX Remaining Tasks

- Receive remaining strippixel stave components
- Assemble & test strippixel staves
- Integrate staves & electronics & test
- Receive remaining pixel ladders
- Test pixel ladders
- Assemble East & West VTX & test
- Transport FVTX to Chemistry building.
- Integrate FVTX Integrated into East & West VTX.
- Survey VTX/FVTX assembly
- Transport VTX&FVTX assembly to PHENIX and install on rails.
- Re-install coolant and N₂ lines, LV, signal and HV cables and fibers
- Re-survey full detector in IR
- Re-commission VTX & FVTX

DC East & West Repairs/Upgrade

DC West repairs complete

May need to repair broken wires later

(need to take down station 1 scaffolding
to Move West Carriage)

Finishing DC East

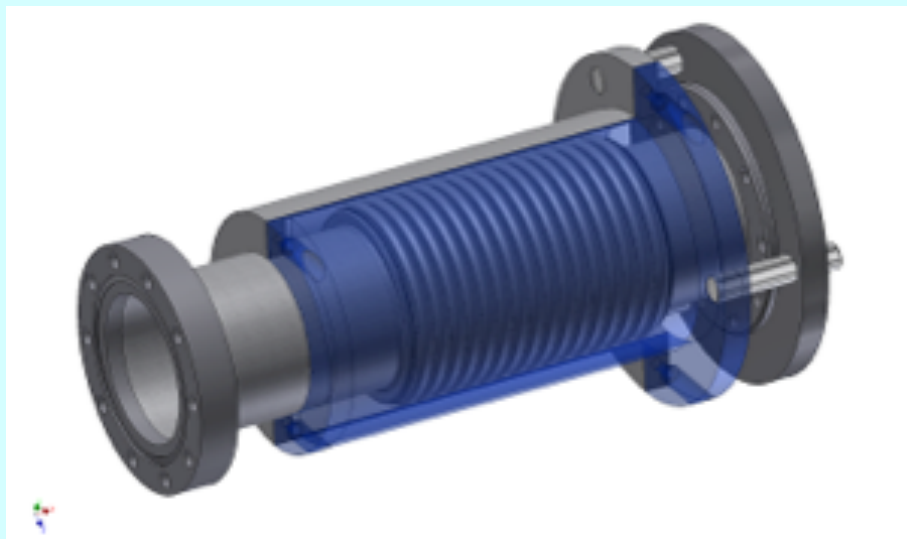
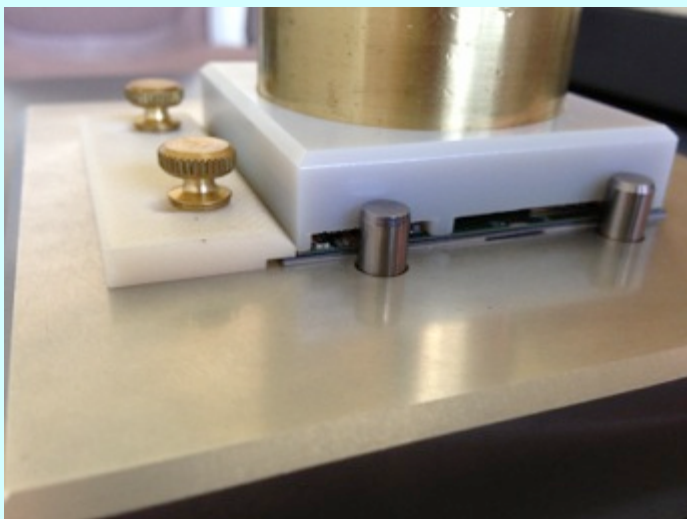
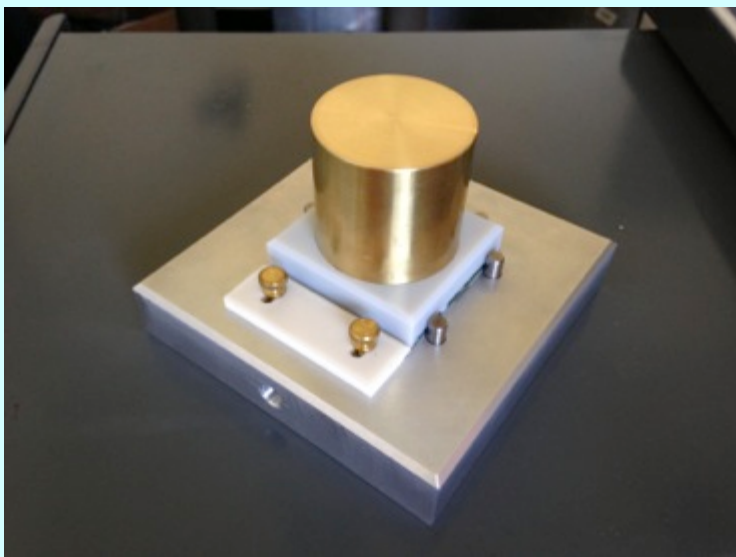


DC East & West Repairs Summary of Tasks

- East Carriage move to AH - Done
- Work Permit - Done
- Design & Construct tent (similar to tent constructed for DC West last year) to prevent foreign material from entering DC East cavity while window is removed. - Done
- CAD to provide 2 vertical manlifts to allow DC experts to remove and replace window - Done
- Get supplies and materials from Stony Brook for window replacement - Done
- Troubleshooting and repairs on DC West - Done
- Supply Gas, DAQ and Electric to EC East - Done
- Isolate and repair leak on DC East
- Remove and replace window
- Isolate and repair leak under electronics card
- Leak test
- Operational tests
- Remove tent and manlift

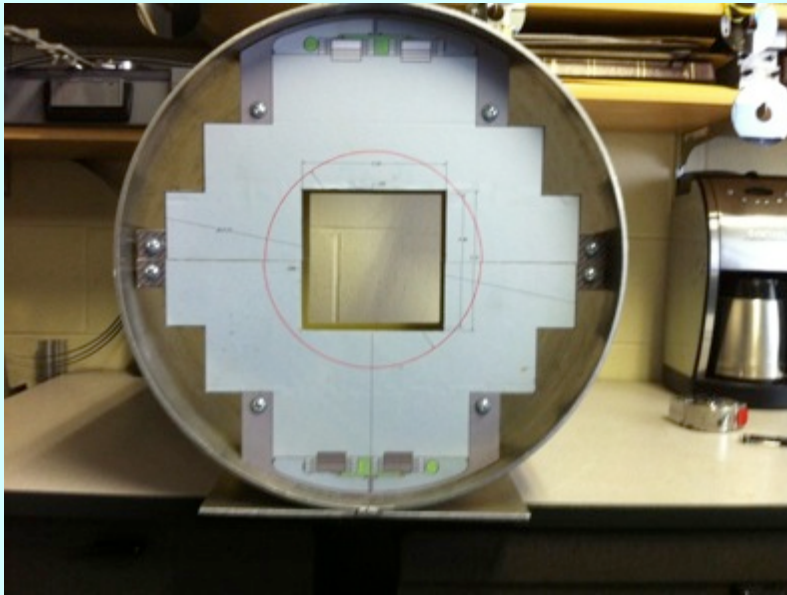
MPC-Ex Initial (Partial) Installation

PHENIX - PROTON BEAM

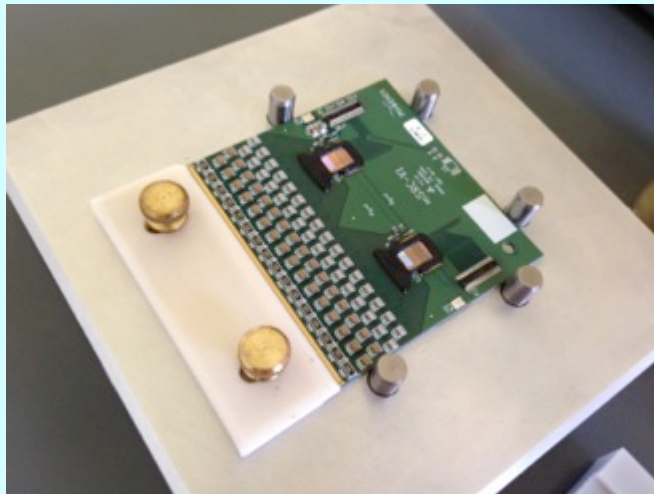


Design vacuum bellows anti-squirm in MPC S Cavity to accommodate MPC-Ex. Parts now at CS for fabrication Ready to be picked up

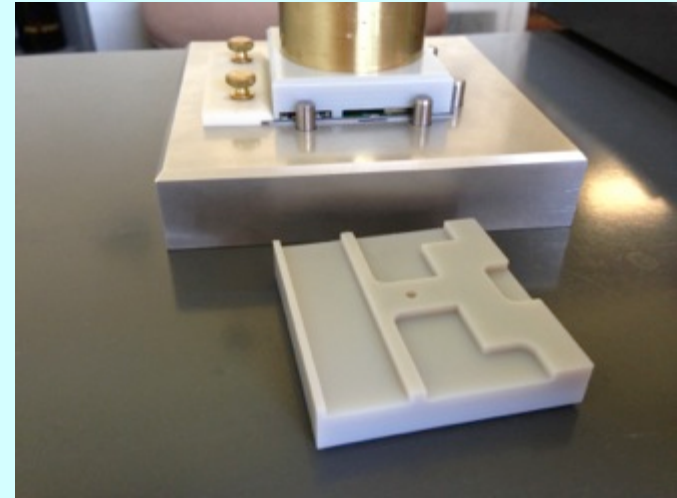
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MPC-Ex mockup to be used for cable and utilities routing plans



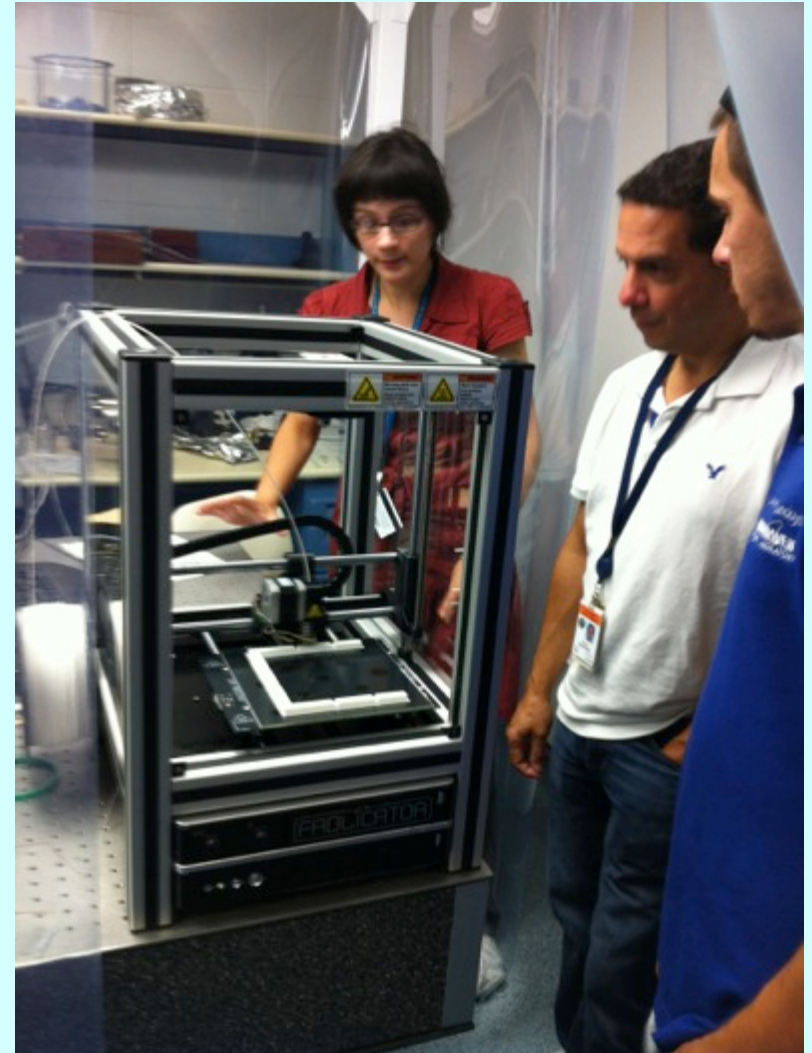
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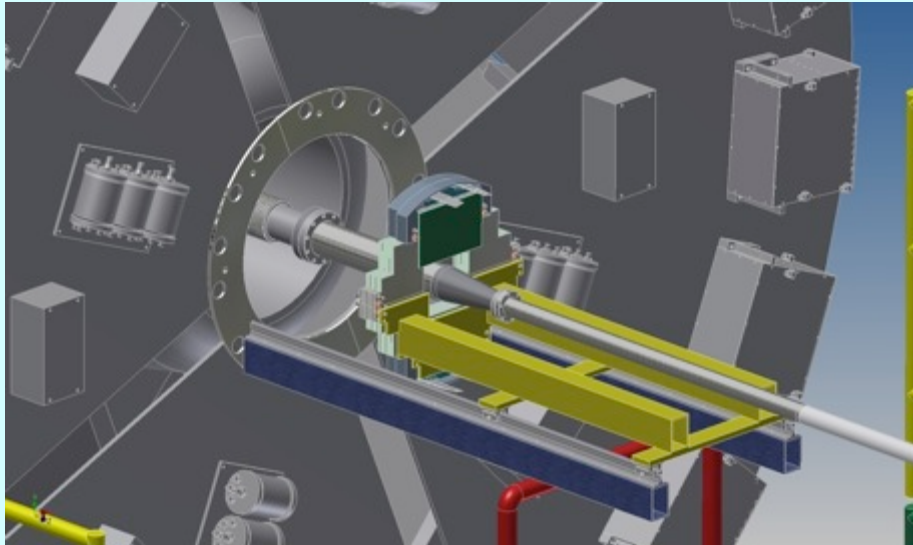


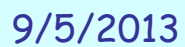
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More 3D Printers



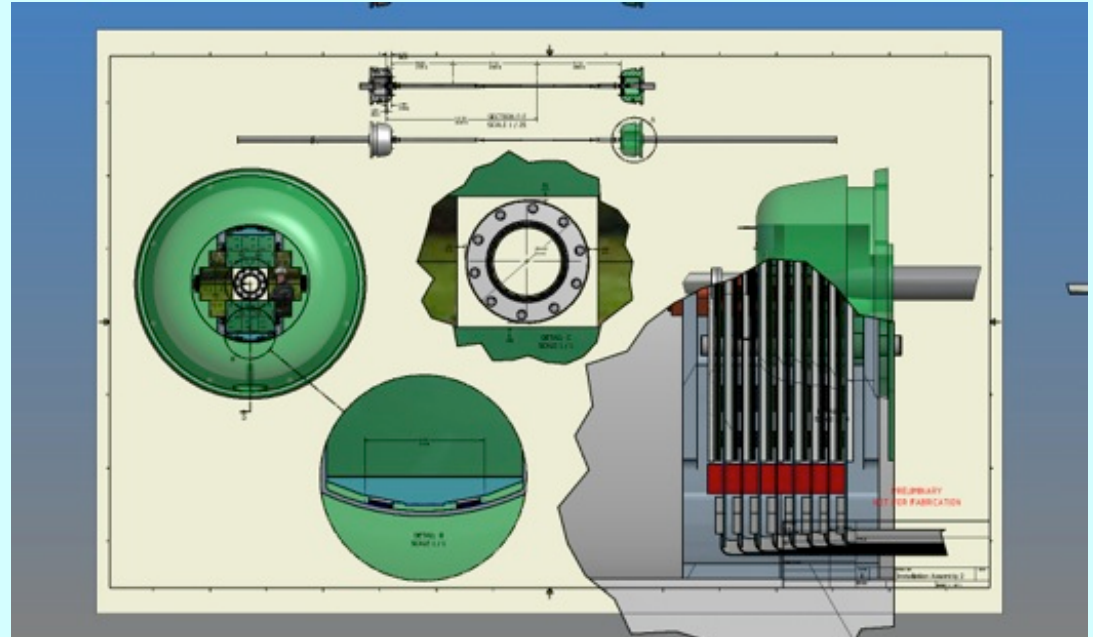
PHENIX - SDAOAT - NORM

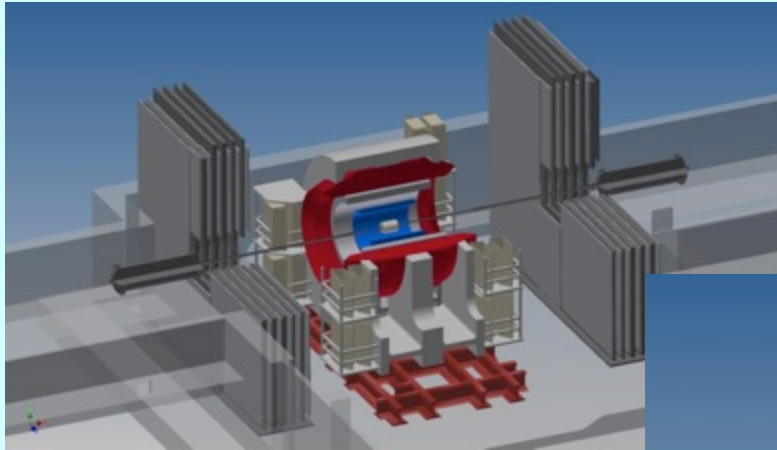




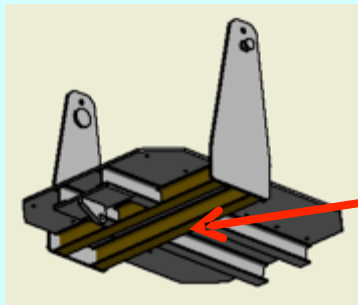
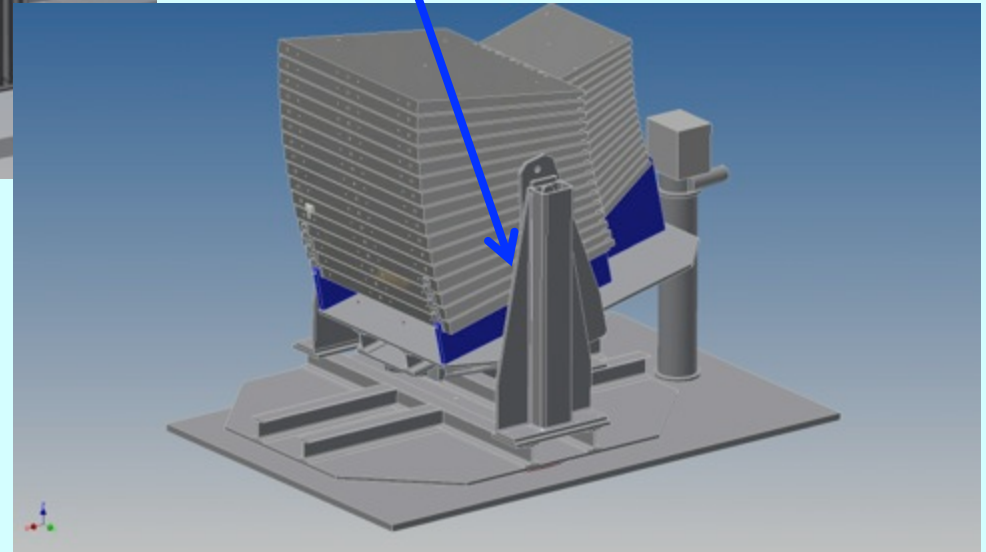
Installation Schedule 11/1-11/15

Performance tests





Added reinforcements to support columns to prevent buckling

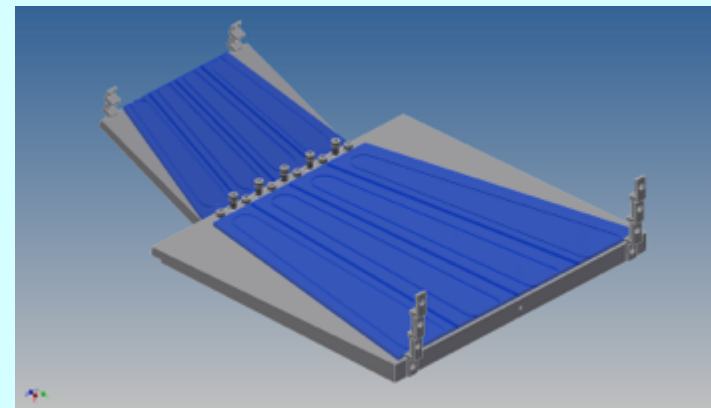


I-beams added to base to stiffen

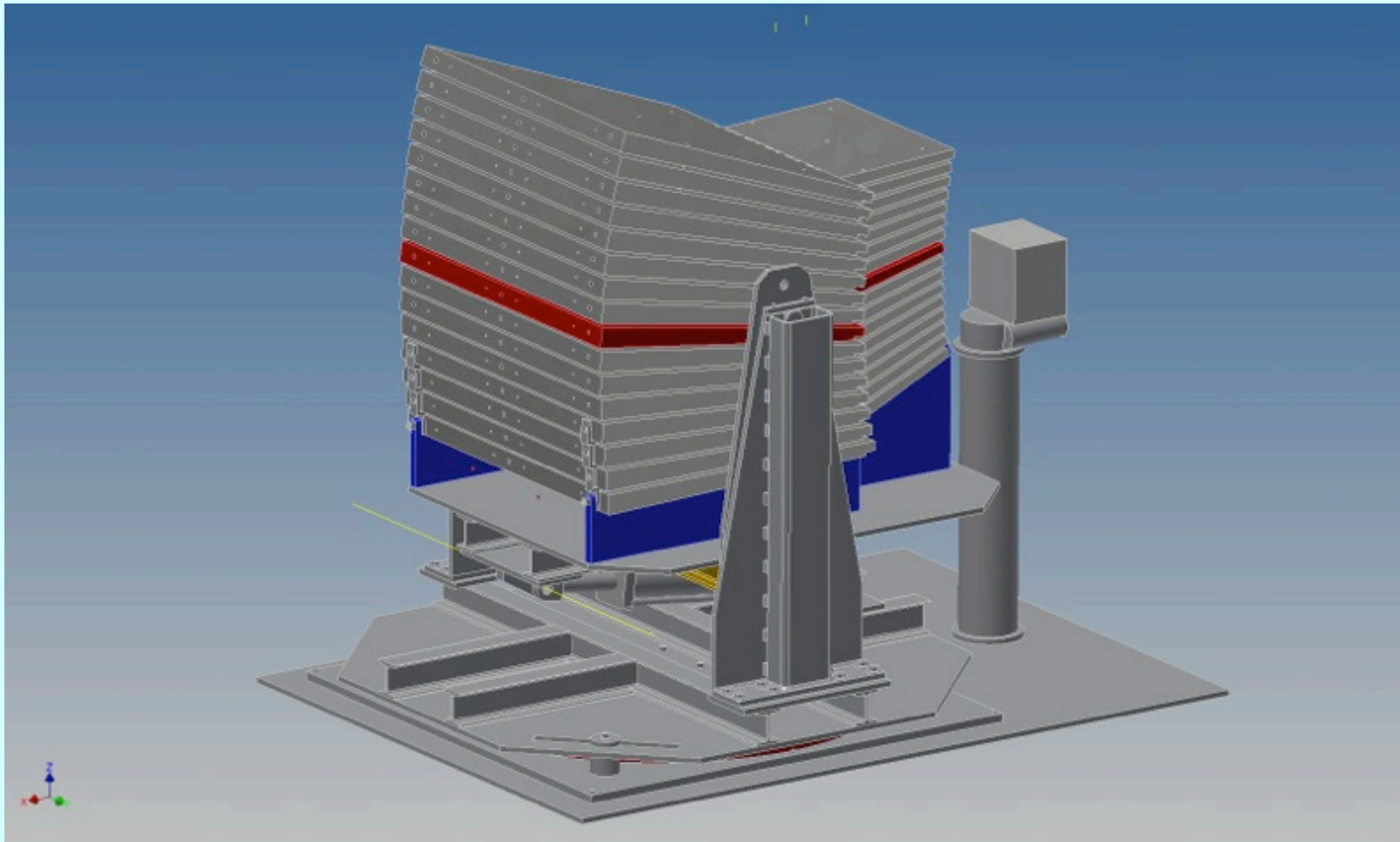
Hcal prototype component procurement is underway:

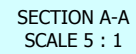
Steel received and scintillator procurements in progress

Tilting, rotation fixture design complete to be sent to shops for fabrication this week



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sPHENIX Prototype Assembly and Test Tasks

TECHNICAL SUPPORT NOTES

Design Hcal and EMCal Prototypes and support components and shipping crates - **in progress**

Procure materials and detail parts - **in progress**

Receive and inspect parts

Assemble prototypes

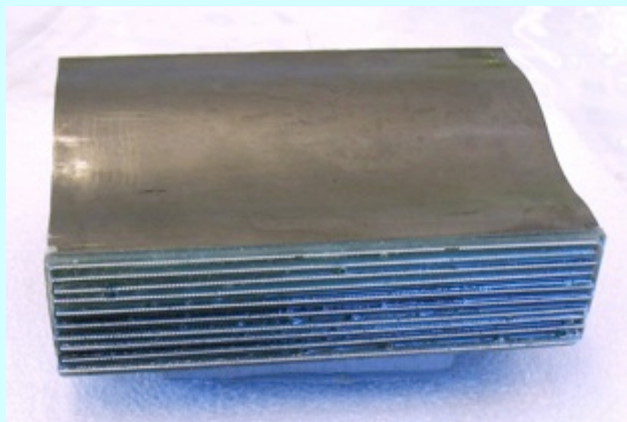
Test assemblies for mechanical fit and function

Package and ship prototypes to FERMI Lab for performance tests

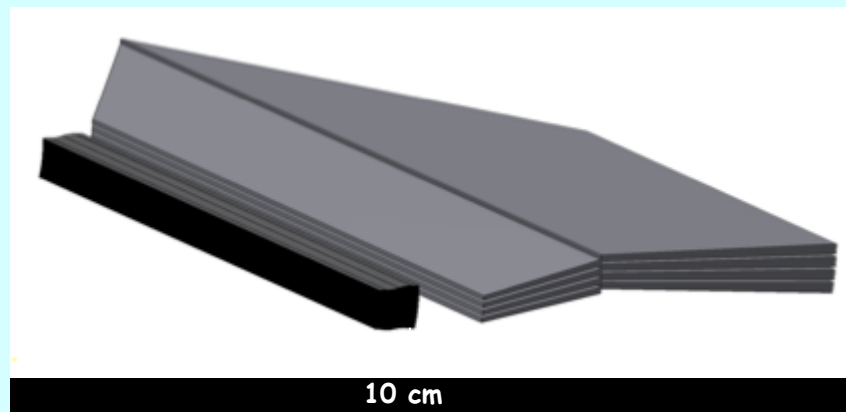
Test and Evaluate at Fermi Lab

EMCal Prototype

Prototype accordion plates with fibers produced as part of SBIR. EMCal for test beam will be flat tapered plates



Prototype "Egg Carton" light collection

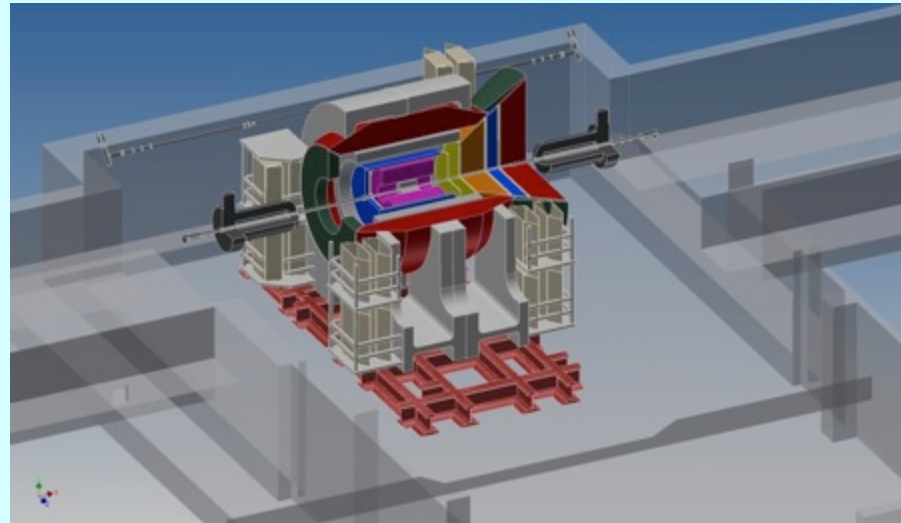
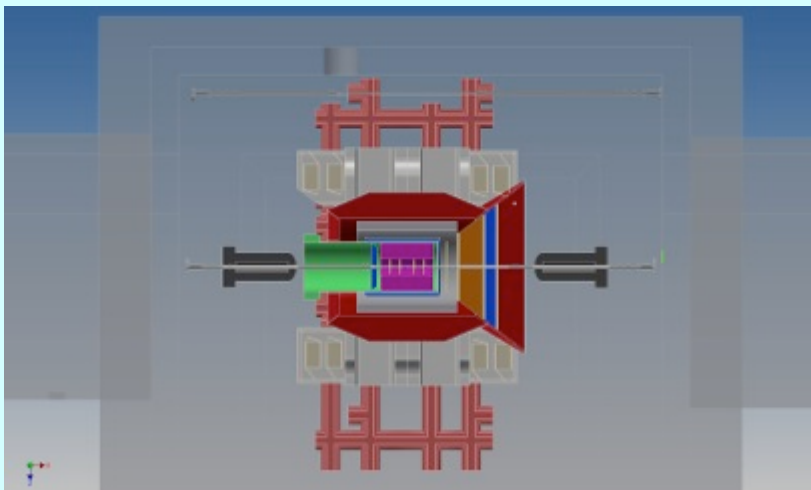


Proto-type EMCal in front of proto-type HCal

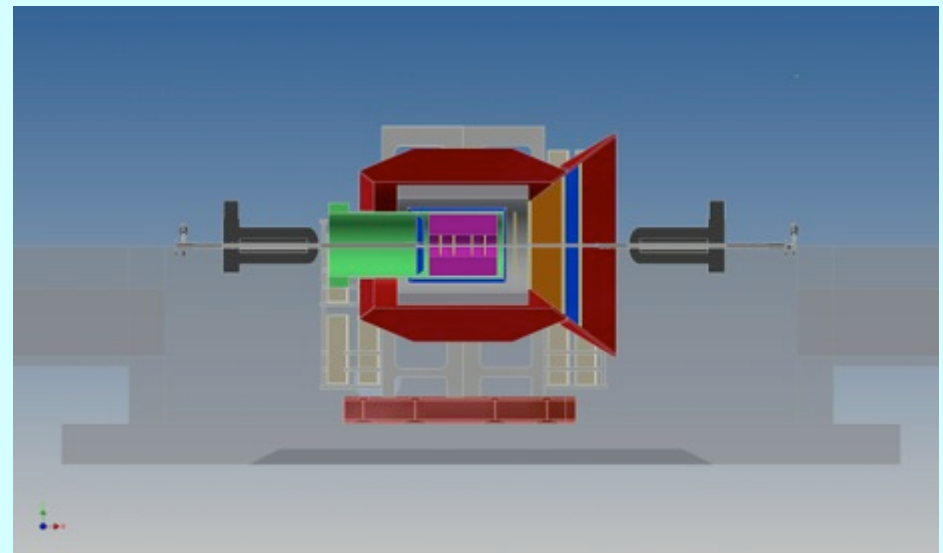
(Photos from Eric slides, from Craig and Sean slides)

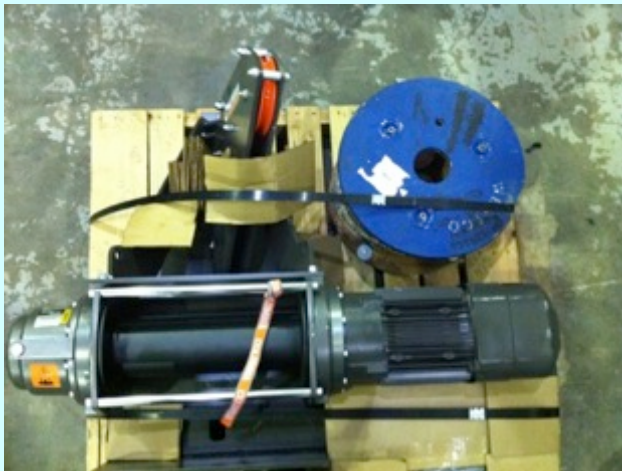
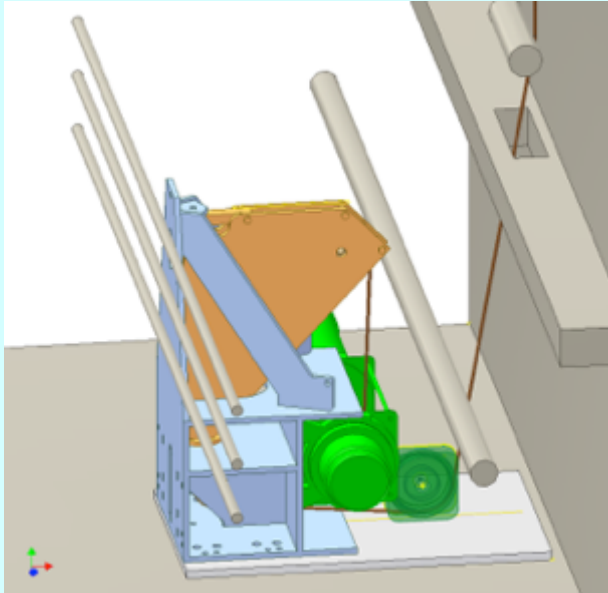
ePHENIX

Plan View



Elevation View





West Carriage moved to run position creating access. Need baseplate and anchors.

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Window Washer Winch Upgrade



Window Washer Winch Upgrade Summary of Tasks

Receive and Inspect winch and components - **Received**

Design and Fabricate Winch & Sheave Base

Install and test Winch, integrate with window washer hardware, controls and power

Final Inspection and approval of window washer upgrade

(Note: remote safety pin insertion and retraction was installed and has been in operation since the start of run 13.)

On hold until West Carriage can be opened

Alcohol Chiller Work For Shutdown 2013



Merlin Chiller

➤ Chiller supplied about ½ the flow as in the past.

- Pressure on chiller says ~70-80psi
- Install gauge on supply line and measure actual output pressure.
- Replace chiller with spare if needed.
- Send old chiller out for maintenance or replace.

New Chiller on Order.

Re-Insulate Glycol lines



❖ Remove old polyethylene insulation and wrap and replace with foam rubber insulation.

- Temp of fluid is affected too much by temp change in the gas house.
- Lines are condensing and dripping because of gaps in insulation.

Locate and fix Glycol Leak.



- Replace all three flow meters (compatible with Propylene Glycol)
 - switch to Visi-Float (VFA) for better compatibility
- Redo connections (replace fittings) behind flow meters
 - Re-insulate all cold lines with foam rubber insulation.

Additional Shutdown Work

- ZDC Remove, Test, Recalibrate



Access on South side enhanced by shielding removal for DX magnet repositioning effort. Overhead cranes can now be used with existing fixture to remove ZDC modules

TECHNICAL SUPPORT NOTES

2013 Shutdown Schedule

TESTING - SCHEDULE - WORK

| | |
|--|----------------|
| Prep for 2013 shutdown | Done |
| Design, Fabricate MPC-Ex | |
| Define tasks and goals | |
| Analysis and design of fixtures, tools and procedures | |
| Fabricate/procure tools and fixtures | |
| Tests, mockups, prototypes | |
| Receive, fabricate, modify, finish installables | |
| Review and approval of parts, tools, fixtures and procedures | |
| Assembly and QA tests | |
| VTX Strippixel redesign | Done |
| VTX Strippixel 1 st article stave assembly | Done |
| VTX Strippixel 1 st article qualification/performance tests | Done |
| VTX strippixel stave production | 5/20-9/20/2013 |
| VTX Strippixel sensor reclamation | 4/1-8/20/2013 |
| VTX Strippixel ladder assembly & Test | 7/15-9/27/2013 |
| Pixel Ladder repairs | 4/1-9/20/2013 |
| Run 12 Ends | Done |
| Shutdown Standard Tasks | Done |
| • Open wall, disassemble wall, Remove MuID Collars | |
| • Move EC to AH, etc. | |
| VTX/FVTX Post run tests | Done |
| Disassemble VTX/FVTX services | Done |
| July 4 th Holiday | Done |
| Remove VTX/FVTX and transport to Chemistry Lab | Done |
| Remove Lampshade MMS, East Vertical | Done |
| Assemble, Test and Install MPC-Ex (Partial, location TBD) | 7/22-10/1/2013 |

| | |
|--|------------------|
| MuTR Troubleshooting, maintenance and repairs | 7/22-9/27/2013 |
| Summer Sunday (8/4) Prep and teardown | Done |
| Summer Sunday (RHIC) | Done |
| DC West troubleshooting & Repairs | Done |
| DC East Window Upgrade and Related Repairs | 8/10-9/27/2013 |
| sPHENIX HCal Prototype Assembly/test | 8/19-10/15/2013 |
| Labor Day Holiday | Done |
| Re-assemble VTX/FVTX halves | 8/19-10/14/2013 |
| Test, survey (at Chemistry and IR) and re-install VTX/FVTX | 10/14-10/21/2013 |
| Install & Survey VTX/FVTX in 1008 IR | 10/21-11/18/2013 |
| VTX Commissioning | 11/18-12/9/2013 |
| Other detector maintenance as required | As required |
| Infrastructure maintenance as required | As required |
| TBD prototype tasks | As required |
| Pre-run commissioning and prep for run 14 | 11/1-12/31/2012 |
| Veterans Day, Lab Holiday | 11/11/2013 |
| Prep for EC roll in | 11/1-11/9/2013 |
| Roll in EC | 11/10-11/12/2013 |
| Prep IR for run | 11/1-11/30/2013 |
| Thanksgiving Holidays | 11/28-29/2013 |
| Pink/Blue/White sheets | 12/14-12/31/2013 |
| Christmas Holiday | 12/24-25/2013 |
| New Year's Day Holiday | 1/1/2014 |
| Start run 14 | 1/2/2014 |

Safety and Security

From John Maraviglia:

CAD's updated LOTO program training session Sep. 12 10:45AM to Noon

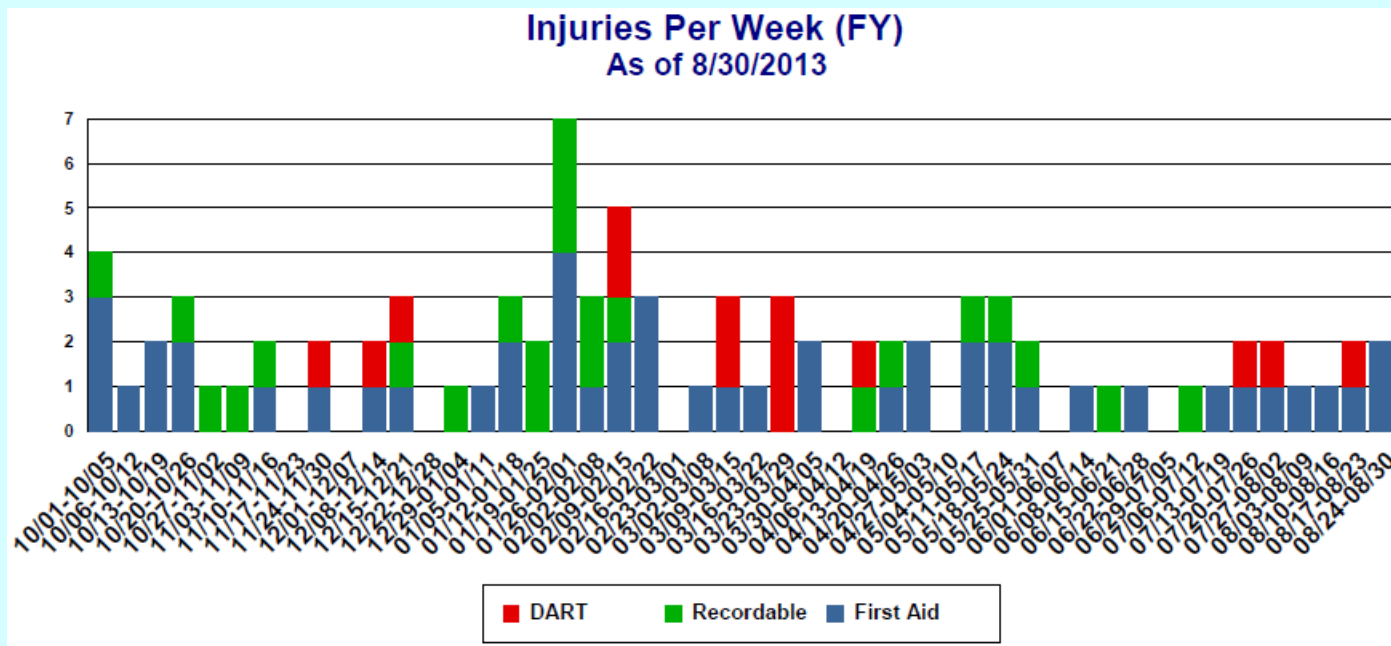
Anyone with LOTO Authorized as a training requirement (or any work coordinator) should attend.

From Ray Karol: Story Collector Survey:

The Lab's next step to create a more consistent culture of accountability is the Story Collector Survey. Share stories--both positive and negative--so patterns or themes can be identified that prevent us from performing our jobs safely and effectively. **The survey is anonymous, runs through Sept. 9, and is hosted on an external website.**

Supervisors should allow 30 minutes so everyone has an opportunity to contribute.





Injury Status:

FY13 YTD: DART – 14, TRC – 37, First Aid – 48

FY12: DART – 17, TRC – 35, First Aid – 70

FY11: DART – 30, TRC – 44, First Aid – 45

FY13 Injury Listing: <https://intranet.bnl.gov/esh/shsd/seg/OccInj/BNLInjuries.aspx>

| Recent Injuries | | |
|-----------------|------------|--|
| 8/28/13 | First Aid | A contractor employee received minor burns to fingers when lifting a hot tray. At the OMC, first aid was given. |
| 8/27/13 | First Aid | An employee injured a finger while using machinery. At the OMC, first aid was given. |
| 8/21/13 | First Aid | An employee and a co-worker were loading a pump onto a stand and the employee was struck on the left side of the face by a pipe flange. The worker was sent for x-rays. |
| 8/20/13 | DART | An employee was walking in a hallway and fell, causing bodily injury. At the ER, prescription medicine was given and the employee was instructed to stay home until 8/22/13. This is recordable due to the prescription. |
| 8/13/13 | First Aid | An employee was working in a manlift and injured an arm. At the OMC, first aid was given and the employee was referred off-site for x-rays. |
| 7/8/13 | Recordable | An employee reported to the OMC with arm pain related to work over the preceding month. |

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| Recent Events | | |
|---------------|----------------|---|
| 8/28/13 | SC-BNL | A qualified worker, by direction, cut a fiber optic cable as part of W.O. EP928552 in support of excessing Laboratory Protection Trailer TR613. As a result of this event both data and telephone communications has been lost to buildings 487 which is vacant, 493 CEGPA/Photography/LP Gym, 494 PPM Excess Storage Facility, ST0568 Vehicle Monitoring Station and 670 Solar Farm. Notifications have been made to each organization operating out of these buildings. The worker was not exposed to any electrical hazard and there were no injuries. (Event Link) |
| 8/22/13 | Non-Reportable | A work crew was performing landscaping work around B906. Part of the work included weed whacking and trimming some branches hanging over a sidewalk. After loading the debris into the truck, they went to the tree dump area to dump the debris. When they got to the dump area, they lowered the tail gate and dumped the load of debris. They did not notice anything wrong while they did this. The next morning another worker noted the hitch was bent and the bottom two bolts were broken off. Supervision was notified. The truck driver stated he did not notice any problems or damage during the debris dump but suspected that was what occurred. (Event Link) |

Where To Find PHENIX Engineering Info

September 5, 2013: This Day in History:

1698: Peter the Great imposes a tax on beards

2014 NFL Football Season Begins tonight: Broncos vs Ravens

Jets - Giants Superbowl this season ???



http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm

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